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FROM FIG. 45B

DOWNSTREAM
EQUALIZATION

1120
CU SENDS EQUALIZATION TRAINING DATA TO RU SIMULTANEOUSLY ON 8 CHANNELS SPREAD ON EACH CHANNEL BY ONE OF THE FIRST 8 ORTHOGONAL CYCLIC CODES MODULATED BY BPSK.

1130
RU RECEIVER RECEIVES EQUALIZATION TRAINING DATA IN MULTIPLE ITERATIONS AND USES LMS 830, FFE 765, DFE 820 AND DIFFERENCE CALCULATION CIRCUIT 832 TO CONVERGE ON PROPER FFE AND DFE TAP WEIGHT COEFFICIENTS.

1132
AFTER CONVERGENCE, CPU READS FINAL TAP WEIGHT COEFFICIENTS FOR FFE 765 AND DFE 820 AND ~~LOADS THESE TAP WEIGHT COEFFICIENTS INTO FFE/DFE CIRCUIT 764~~; CPU SETS FFE 765 AND DFE 820 COEFFICIENTS TO INITIALIZATION VALUES.

CONVOLVES THESE
SE FILTER TAP
WEIGHTS WITH
THE OLD FILTER
TAP WEIGHTS
OF THE FFE AND
DFE FILTERS OF
CE CIRCUIT 764.
AND LOADS THE
NEWLY CALCULATED
TAP WEIGHTS
INTO THE
FFE AND DFE
FILTERS OF
THE CE CIRCUIT

54C
FIG. 45C

53C

EQUALIZATION

CU SENDS MESSAGE TO RU TELLING IT TO SEND EQUALIZATION DATA TO CU USING ALL 8 OF THE FIRST 8 ORTHOGONAL CYCLIC CODES AND BPSK MODULATION.

RU SENDS SAME TRAINING DATA TO CU ON 8 DIFFERENT CHANNELS SPREAD BY EACH OF FIRST 8 ORTHOGONAL CYCLIC CODES.

CU RECEIVER RECEIVES DATA, AND FFE 765, DFE 820 AND LMS 830 PERFORM ONE INTERATION OF TAP WEIGHT(COEFFICIENT) ADJUSTMENTS.

TAP WEIGHT (COEFFICIENT) ADJUSTMENTS CONTINUE UNTIL CONVERGENCE WHEN ERROR SIGNALS DROP OFF TO NEAR ZERO.

AFTER CONVERGENCE DURING TRAINING INTERVAL, CU SENDS FINAL FFE AND DFE COEFFICIENTS TO RU.

CONVOLVES SE CIRCUIT WITH COEFFICIENTS INTO PRECODE FFE/DFE FILTER IN TRANSMITTER AND LOAD NEWLY

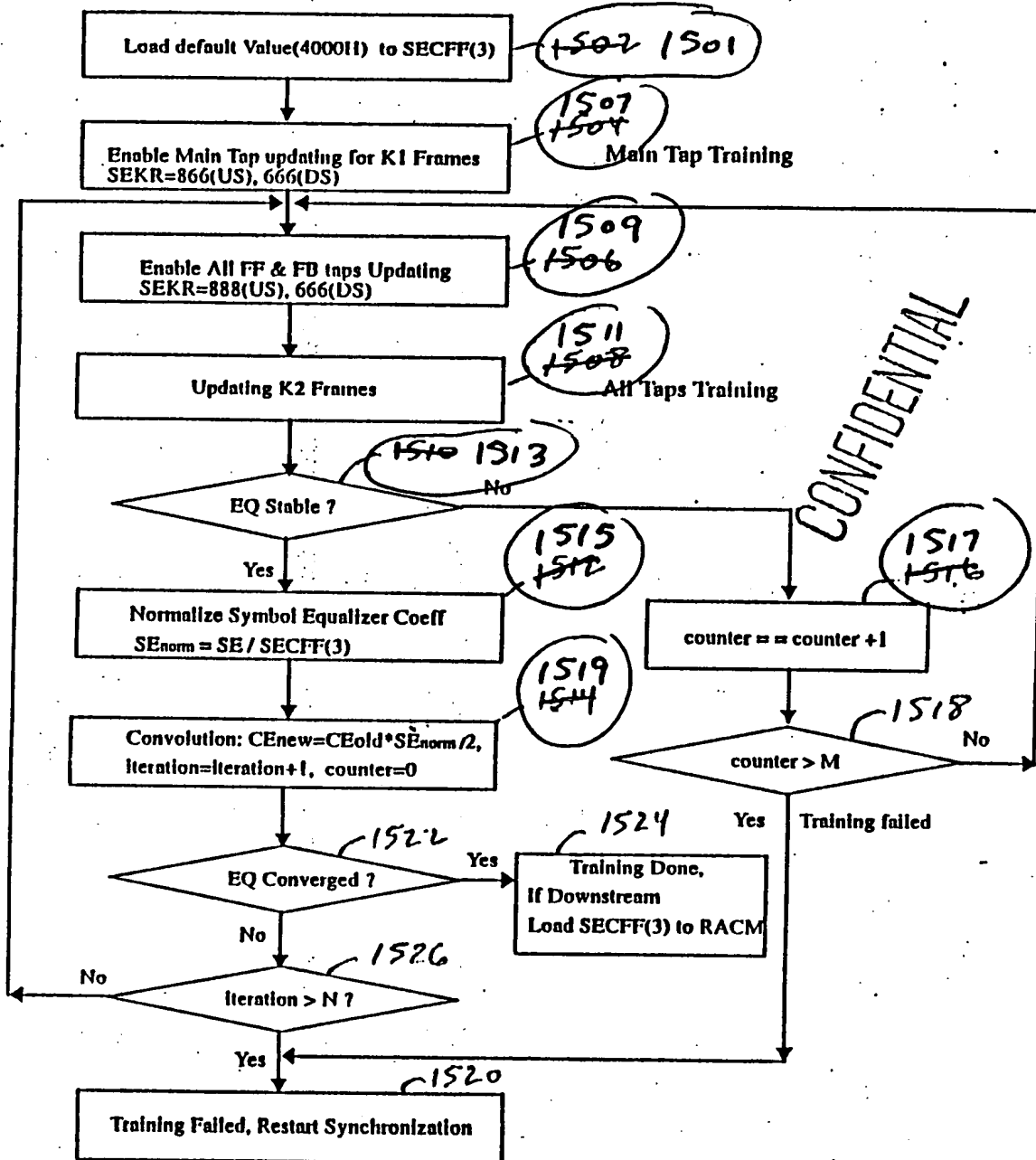
CU SETS COEFFICIENTS OF PFE 765 AND DFE 820 TO ONE FOR RECEPTION OF UPSTREAM PAYLOAD DATA.

TRANSPARENCY VALUES

CALCULATED COEFFICIENTS INTO RU: XMTR PRECODE FILTER

FIG. 45B

Initial 2-Step Training Algorithm



2-STEP INITIAL EQUALIZATION TRAINING
FIG. 60